

REMARKS

Claims 3-5, 7-9, 11-13, 21-33, 42 and 45-60 remain pending in the application. Reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

In the Final Office Action, the Examiner rejects claims 3-5, 8, 9 and 12 under 35 U.S.C. §103(a) as being unpatentable over Burns et al. (U.S. Patent No. 5,657,326) in view of Nakano et al. (U.S. Patent Application Publication No. 2003/0021228), and rejects claims 7 and 11 under 35 U.S.C. §103(a) as being unpatentable over Burns et al. in view of Nakano et al. and Chen et al. (U.S. Patent No. 6,920,520). Applicants respectfully traverse the rejections for at least the following reasons.

Applicants' independent claim 3 recites a method of detecting a collision between two transmissions in a radio frequency network of devices which includes, inter alia, transmitting a collision signal that is itself perceived by one or more other devices as a collision.

Applicants' independent claim 8 recites a radio communication system which includes, inter alia, a third device that transmits a collision signal to other devices which itself will be perceived by the other devices as a collision.

Applicants' independent claim 12 recites a transceiver for use in a radio communication system. The transceiver transmits a collision signal which will itself be perceived by other transceivers as a collision.

Burns et al. discloses a system which includes an access point 13, and wireless stations 1 and 2. See, e.g., Fig. 1 and col. 4, lines 51-61 of Burns et al. The wireless stations are provided with a collision detector 41. See, e.g., Fig. 2 of Burns et al. A

pseudo-random data bit stream is included at the start of each packet to allow the collision detector 41 to perform early collision detection. See, e.g., col. 10, lines 35-43 of Burns et al.

Burns et al. discloses that the collision detector 41 monitors the state of a transmit antenna of the wireless station during transmissions and signals received from other sources on the antenna to determine if a collision is occurring. In order to rapidly detect a collision, each transmitting device transmits a coded preamble (UBS). The overlap of two preambles will generate intermodulation products which enable detection of a collision. If a collision is detected by a transmitting device, then the device performs a conventional "backoff and retry sequence". See, e.g., col. 1, lines 30-40; col. 6, lines 1-7; col. 10, lines 25-40; and col. 11, lines 56-60 of Burns et al.

In the Final Office Action, the Examiner acknowledges that Burns' wireless stations 1 and 2 do not transmit a collision signal that is itself perceived by one or more devices as a collision. However, the Examiner asserts that this feature is obvious, based on the teachings of Nakano et al. Applicants respectfully disagree.

Nakano et al. describes a conventional CSMA/CD system used in a wired LAN, in which a node, which transfers data, detects a data collision and transmits a collision signal representing the occurrence of the data collision to all nodes on a stream. See, e.g., paragraphs [0011] – [0015] of Nakano et al.

Nakano et al. fails to disclose or suggest that the collision signal is perceived by the other nodes as a collision. Rather, Nakano et al. merely discloses that a node receiving the collision signal stops a data transfer and then performs a conventional backoff and reentry. See paragraphs [0016]-[0017] of Nakano et al. Nowhere in Nakano

et al. is it suggested that the collision signal itself is perceived as a collision by the other nodes.

Further, Nakano et al. is directed to a wired LAN, not a wireless LAN.

Applicants submit that Burns et al. specifically discusses that the application of CSMA/CD protocols from wired to wireless environments is not straight forward. Thus, Applicants submit that Burns et al. teaches away from Nakano's wired LAN methods.

Furthermore, Applicants submit that Burns' methods render the approach of Nakano et al. unnecessary. In this regard, Burns et al. teaches that a wireless device has a collision detection circuit that monitors the state of its transmit antenna during transmission, as well as signals received from other sources on the antenna, so as to determine if a collision is occurring. If a collision is detected, then the transmitting device performs a backoff and retry. See, e.g., col. 6, lines 1-17 of Burns et al. Thus, as the transmitting device itself performs the collision detection while actively transmitting, then there is no need for the collision signal of Nakano et al. to instruct a transmitting node to cease transmission and perform a backoff and retry, as the device will already have detected a collision and initiated a backoff and retry procedure.

For at least these reasons, Applicants respectfully submit that the inventions recited in Applicants' independent claims 3, 8 and 12 are not obvious in view of the combined teachings of Burns et al. and Nakano et al. Applicants submit that Chen et al. also fails to overcome the above-noted deficiencies of Burns et al. and Nakano et al., and respectfully request that the Examiner withdraw the outstanding rejections under 35 U.S.C. §103(a).

In the Final Office Action, the Examiner objects to claim 13 as being dependent upon rejected claim 12, but indicates that claim 13 would be allowable if rewritten in independent form. Applicants respectfully submit that claim 13 is in condition for allowance in its present form, as Applicants believe that claim 12 should be allowed for the reasons discussed above. Accordingly, Applicants respectfully request that the Examiner withdraw the objection.

Applicants wish to thank the Examiner for allowing claims 21-33, 42 and 45-60, and for indicating that claim 13 includes allowable subject matter. In response to the Examiner's statement of reasons for the indication of allowable subject matter, Applicants wish to clarify the record with respect to the basis for the patentability of claims in the present application. While Applicants do not disagree with the Examiner's indication of allowability, Applicants submit that each of the claims in the present application recite a combination of features, and that the basis for patentability of each of these claims is based on the combination of features recited therein.

Based on the above, it is respectfully submitted that this application is in condition for allowance, and a Notice of Allowance is respectfully requested.


SUMMARY AND CONCLUSION

Reconsideration of the outstanding Final Office Action, and allowance of the present application and all of the claims therein are respectfully requested and believed to be appropriate. Applicants have made a sincere effort to place the present invention in condition for allowance and believe that they have done so.

Should an extension of time be necessary to maintain the pendency of this application, including any extensions of time required to place the application in condition for allowance by an Examiner's Amendment, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,  
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